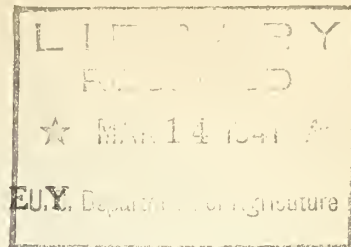


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## ESTIMATES OF DAMAGE BY THE EUROPEAN CORN BORER IN 1940

By A. M. Vance, Entomologist  
Division of Cereal and Forage Insect Investigations,  
Bureau of Entomology and Plant Quarantine,  
United States Department of Agriculture.

The European corn borer (*Pyrausta nubilalis* Hbn.) in 1940 caused an estimated loss of slightly more than \$6,500,000 to the corn crop produced in 258 counties of the Northeastern States and valued at approximately \$126,000,000. In 1939<sup>1/</sup> damage by the insect to corn valued at approximately \$106,000,000 and grown over a slightly larger and not entirely comparable area in the same part of the country was estimated at almost \$4,000,000. It is believed that these estimates provide a fairly reliable and conservative picture of the current economic importance of the pest.

The damage estimates in 1940 were calculated in the same way as in previous years. The percentage of loss of yield was determined by applying the established damage indices of 3 percent and 8 percent loss per borer per plant for field and sweet corn, respectively, to the data on county abundance of the corn borer obtained in the fall of 1940.<sup>2/</sup> Data on corn production were taken from the 1935 Agricultural Census and seasonal market quotations on corn were contributed by the Agricultural Marketing Service of the United States Department of Agriculture in Washington and in the field, and by several State and city marketing agencies. In the calculations the 1940 quotations for corn harvested for grain are preliminary and the prices of sweet corn are averages of daily quotations for the crop-marketing season. The following prices for 1940 were used:

Corn harvested for grain, cents per bushel: West Virginia, 80; New Jersey and Pennsylvania, 78; Connecticut, Rhode Island, and Virginia, 77; New York, 7; Massachusetts and Vermont, 73; Kentucky, Maine, and New Hampshire, 72; Maryland, 70; Delaware, 68; Ohio, 66; Michigan, 65; Illinois and Indiana, 62; and Wisconsin, 60.

Sweet corn, cents per dozen ears: Connecticut, 21; New Jersey, 18; western New York, 17; Maine, Massachusetts, New Hampshire, eastern New York, Ohio, Pennsylvania, Rhode Island, Vermont, and West Virginia, 15; Delaware, Maryland, and Virginia, 14; Michigan, 13; Illinois, Indiana, Kentucky, and Wisconsin, 12.

<sup>1/</sup>

See Insect Pest Survey Bul. v. 19, sup. to No. 1, March 15, 1940.

<sup>2/</sup>

See Insect Pest Survey Bul. v. 20, sup. to No. 9, December 20, 1940.

Table 1 presents the data on the value of the corn crop and the losses caused by the European corn borer in 1940 within the counties surveyed in each of 19 infested States.

The infested area surveyed in 1940, for which damage estimates have been prepared, comprised 5,369,528 acres of corn harvested for grain, with an estimated crop value of \$105,171,673, and 171,154 acres of sweet corn, with an estimated crop value of \$20,700,830. The combined acreage of grain and sweet corn was 5,540,682 and the estimated crop value of both totaled \$125,872,503.

The estimated total loss by the European corn borer to the crop in the area surveyed in 1940 was \$6,679,827. This estimated loss was divided as follows: Corn harvested for grain, \$4,140,479 (62 percent of the entire loss); sweet corn \$2,539,348 (38 percent of the entire loss). In 1939, 46.4 percent of the total loss was in corn harvested for grain and 53.6 percent in sweet corn.

In the surveyed areas in the Lake States (Ohio, Michigan, Indiana, Illinois, Wisconsin, western Pennsylvania, and western New York) and in Kentucky the loss caused by the corn borer in 1940 to corn harvested for grain was estimated at \$3,495,810 (86.3 percent of the entire loss in that area) and to sweet corn at \$552,614 (13.7 percent of the entire loss), or a total of \$4,048,424.

In the surveyed areas in the Eastern States (New England, New Jersey, Delaware, Maryland, Virginia, eastern New York, and eastern Pennsylvania) the loss caused by the corn borer in 1940 to corn harvested for grain was estimated at \$644,669 (24.5 percent of the entire loss in that area) and to sweet corn at \$1,986,734 (75.5 percent of the entire loss), or a total of \$2,631,403.

The greatest damage by the corn borer to corn harvested for grain in areas surveyed in 1940, as in 1939, occurred in Ohio, Michigan, and Indiana, where the estimated losses were \$2,144,591, \$656,040, and \$558,198, respectively. The estimated losses caused by the pest to sweet corn in 1940 were highest in the States of New Jersey, New York, and Connecticut, where they were \$871,149, \$572,860, and \$413,324, respectively.



Table 1.---Estimates of damage by the European corn borer to corn harvested for grain, and to sweet corn, in areas surveyed in 1940

State	: Counties:	: Corn harvested for grain				: Sweet corn				: Total
		: Extent of:	: Estimated	: Extent of:	: Estimated:	: Extent of:	: Estimated:	: Extent of:	: Estimated	
		: area	: value of	: loss of	: area	: value of	: loss of	: area	: value of	: loss of
		: surveyed	: crop	: crop value:	: surveyed	: crop	: crop value:	: surveyed	: crop	: crop value:
		: Number	: Acres	: Dollars	: Acres	: Dollars	: Acres	: Dollars	: Acres	: Dollars
Connecticut.....		8	14,006:	417,086:	45,823:	7,373:1,237,614:	413,324:	459,147		
Delaware.....		3	136,052:	2,676,521:	53,391:	2,955:	330,960:	7,515:	60,906	
Illinois.....		5	256,835:	1,731,612:	0	7,623:	731,808:	0	0	
Indiana.....		35	1,532,393:	26,424,703:	558,198:	18,802:1,804,992:	54,365:	612,563		
Kentucky.....		4	43,863:	628,121:	64:	261:	25,056:	2:	66	
Maine.....		14	3,431:	87,524:	71:	11,194:1,343,280:	2,253:	2,324		
Maryland.....		3	71,010:	1,084,643:	70,716:	169:	18,928:	2,251:	72,967	
Massachusetts.....		10	7,622:	233,510:	6,878:	11,168:1,340,160:	192,126:	199,004		
Michigan.....		20	475,625:	8,945,676:	656,040:	12,542:1,304,368:	225,901:	881,941		
New Hampshire.....		9	4,072:	122,869:	1,539:	2,365:	283,800:	6,107:	7,646	
New Jersey.....		19	152,117:	4,312,499:	182,627:	28,447:4,096,368:	871,149:1,053,776			
New York.....		16	71,311:	1,828,778:	153,159:	20,118:2,476,256:	572,860:	726,019		
Ohio.....		43	1,953,314:	40,227,497:	2,144,591:	24,195:2,903,400:	78,740:2,223,331			
Pennsylvania.....		32	423,858:	12,023,277:	62,463:	16,398:1,967,760:	56,470:	118,933		
Rhode Island.....		4	2,287:	56,086:	4,632:	1,675:	201,000:	43,459:	48,091	
Vermont.....		12	13,013:	361,043:	5,355:	1,484:	178,080:	5,879:	11,234	
Virginia.....		5	86,311:	1,496,189:	193,941:	328:	36,736:	6,637:	200,578	
West Virginia.....		10	91,404:	1,946,266:	0	1,283:	153,960:	0	0	
Wisconsin.....		6	31,004:	567,773:	991:	2,774:	266,304:	310:	1,301	
Total.....		258	5,369,528:105,171,673:	4,140,479:	171,154:29700,830:	2,539,348:6,679,827				

